

AMENDMENTS TO THE CLAIMS

1. (Cancelled)
2. (Cancelled)
3. (Currently Amended) A method for producing a bearing structure, comprising:

forming a rolling raceway surface;
carbonitriding asaid rolling raceway surface of a bearing structurepart to form a layer containing 30% to 80% retained austenite for contacting a surface carburizing layer used as a rolling raceway surface of the roller of the cylindrical bearing;

forming one of a cylindrical bearing and a needle roller bearing;

carbonitridizing carbonitriding a the surface of said bearing to produce an amount of retained austenite in a surface layer that is increased by about 30% from an austenite concentration prior to the step of carbonitriding;

subjecting said roller to a surface finishing which produces micro concave-convex portions in a random direction; and

forming the bearing structurepart wherein an L10 life ratio of said bearing structurepart, when tested using standard lubricant, is greater than or equal to three times an L10 ratio of the conventional bearing structurepart.
4. (Currently Amended) A method for forming a rolling raceway surface for a cylindrical bearing comprising:

carburizing a surface of said rolling raceway surface to produce a carburized layer;

carbonitriding a surface layer of said carburized layer;
the step of carbonitriding including forming a surface layer containing from 30%
to 80% retained austenite in said rolling raceway surface; and
yieldingforming said rolling raceway wherein an L10 life ratio of said rolling
raceway, when tested using standard lubricant, is greater than or equal to three times an
L10 life ratio of the conventional rolling raceway.

5. (Previously Presented) The method according to claim 4, further comprising:
surface finishing a surface of said surface layer after the step of carbonitriding;
and

the step of surface finishing being effective to produce a surface having a
cylindricity and a surface roughness suitable for use as a rolling raceway surface.

6. (Previously Presented) The method according to claim 5, wherein the step of
finishing includes producing micro concave-convex portions in random directions said
surface.

7. (Previously Presented) The method according to claim 4, further comprising heat
treating said rolling raceway surface to produce residual compression stress.